

TRENDS IN WASHINGTON EARNINGS, 1989-1999: A REPORT BASED ON THE CENSUS

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Earnings of High School-Educated Males

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What happened to male high school graduates in the 1990's? Did their earnings situation get better or worse between 1989 and 1999? Using data from the 1990 and 2000 five percent Public Use Microdata Sample (PUMS)¹, this issue brief will examine how earnings have changed for male high school graduates in Washington State and then evaluate how changes in the work level, age distribution, or full time earnings affected these changes.

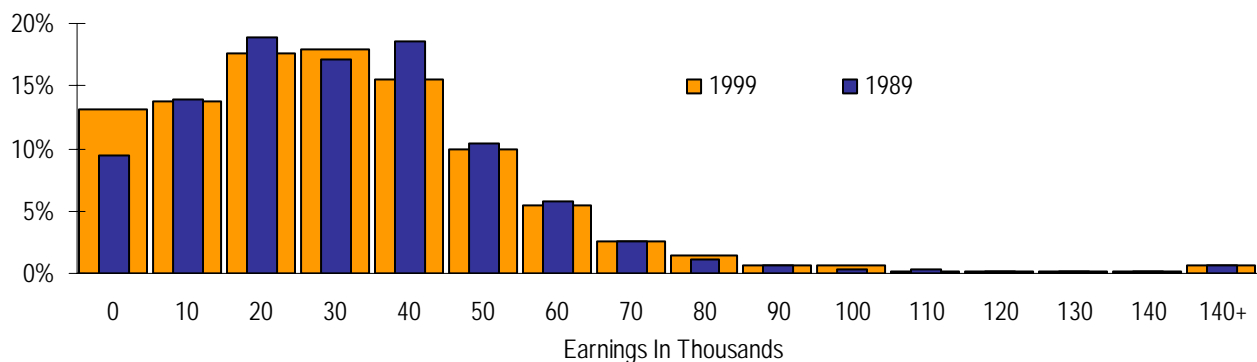
Overall Earnings Decline for Most Male High School Graduates

Change in earnings were mixed for all male high school graduates (see Figure 1 and Table 1). Although the mean earnings² of male high school graduates increased by a small margin (3 percent), there was a decline in earnings in the bottom half of the earnings distribution (see Table 1). This drop in the bottom half of the earnings distribution was driven, at least in part, by the four percentage-point increase in male high school graduates with zero earnings (increasing from 9 percent in 1989 to 13 percent in 1999).

At the 25th percentile there was a 12 percent or a \$1,266 decline in earnings from \$10,866 in 1989 to \$9,600 in 1999. Male high school graduates at the median experienced a 2-percent decline in earnings from \$24,414 in 1989 to \$24,000 in 1999.

Male high school graduates in the top quarter of the earning distribution experienced some gains in earnings. Male high school graduates at the 75th percentile earned \$39,300 in 1999, up 2 percent from 1989. Male high school graduates at the 90th percentile in 1999 earned \$55,000, up 8 percent from 1989.

Figure 1—Distribution of Earnings for Male High School Graduates



Note: Earning data was categorized in \$10,000 increments with the exception of the first and last earning categories (i.e. the \$10,000 earning category includes those earning \$1-\$10,000). The first earning category includes people with zero earnings and a small group of people with negative earnings. The last earning category includes those who earn \$140,000 or more.

The Washington State data used in this analysis come from the 2000 five percent Public Use Microdata Sample (PUMS). More information on these surveys can be found at the Census website: <http://www.census.gov/main/www/pums.html>.

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**Table 1—Earnings for Male High School Graduates in Washington State
Adjusted for Inflation (1999 dollars)**

	1989	1999	Change 1999-1989	% Change (1999/1989-1)
Mean	\$27,138	\$27,872	\$734	4%
Percentile				
10th	\$470	\$0	-\$470	—
25th	\$10,866	\$9,600	-\$1,266	-12%
50th	\$24,414	\$24,000	-\$414	-2%
75th	\$38,352	\$39,300	\$948	2%
90th	\$51,136	\$55,000	\$3,864	8%

Drop in Percentage of Full and Part Time Workers Moves Earnings Down

The earnings distribution of male high school graduates is affected by work level.³ Those who work more tend to earn more. In 1999, the real mean and median full time earnings for male high school graduates were \$37,885 and \$32,400 respectively (see Figure 2). In contrast, the mean and median part time earnings for male high school graduates were \$17,492 or \$11,200 respectively. Those who have zero earnings and/or do not work, obviously have zero mean and median earnings.

All other things being equal, changes in the rate of full or part time work will change the earnings distribution. If the rate of full time work goes down or the rate of no work goes up then the overall earnings distribution will be lower than it would have been otherwise.

In 1999, the majority of male high school graduates worked full time, but the percentage of full time workers had declined since 1989(see Table 2). Sixty-two percent of male high school graduates worked full time in 1999, down 2 percentage points since 1989. Part time work also declined among male high school graduates. In 1999, 25 percent of male high school graduates worked part time, down 2 percentage points from 1989. Instead of working full or part time, an increasing percentage of male high school graduates did not work at all. In 1999, 13 percent of male high school graduates did not receive any earnings from work, up 4 percentage points from 1989.

If work level remained at 1989 levels, the mean earnings for male high school graduates in 1999 would have increased by roughly \$1,141 from \$27,872 to \$29,013. In this scenario, mean earnings would have increased by 4 percent over the 10-year period instead of 3 percent.

Figure 2—Mean and Median Earnings for Male High School Graduates by Work Level, 1999

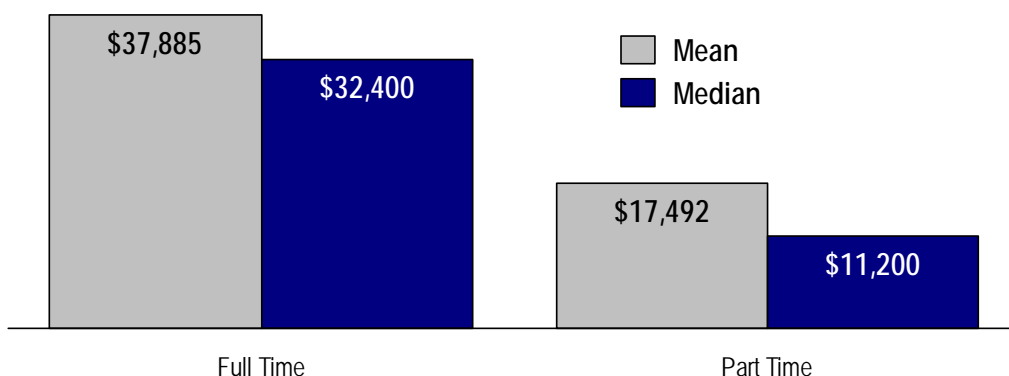


Table 2—Work Level for Male High School Graduates in Washington State

	1989	1999	Change 1999-1989
No Work: zero earnings	9%	13%	4%
Part Time: non-zero earnings and hours < 35 or weeks < 45	27%	25%	-2%
Full Time: non-zero earnings and hours ≥ 35 and weeks ≥ 45	64%	62%	2%

Does an Older Population of Male High School Graduates Translate into Higher Earnings?

Earnings tend to increase with age. In 1999, the mean earnings for male high school graduates ranged from \$13,384 among those aged 18 to 24 to \$35,268 among those aged 45 to 54 (see Figure 3). Differences in earnings by age can mostly be explained by the difference in the experience and seniority that older workers have compared to younger workers. However, differences in earnings by age can also be explained by differences in work level by age. The youngest and oldest male high school graduates were the least likely to work full time (see Figure 4). The oldest male high school graduates were the most likely to have no work at all. Given these facts, finding that earnings were the lowest for the youngest and the oldest male high school graduates was not surprising.

Between 1990 and 2000, the age of male high school graduates shifted upwards (see Table 3). There were proportionally fewer men aged 25 to 34 and proportionally more men aged 35 to 44 and 45 to 54. Given the relationship between earnings and age, one would expect that an older population would result in higher overall earnings. Indeed, if the age distribution in 2000 was the same as 1990 then mean earnings would have been roughly \$561 less than actual. But if both age and work level remained the same in 1999 as it was in 1989 then the mean earnings would have been roughly \$511 dollars more. The increasing age of the male high school graduates, partially offset the effect of work level changes on overall earnings.

Figure 3—Mean Earnings for Male High School Graduates by Age

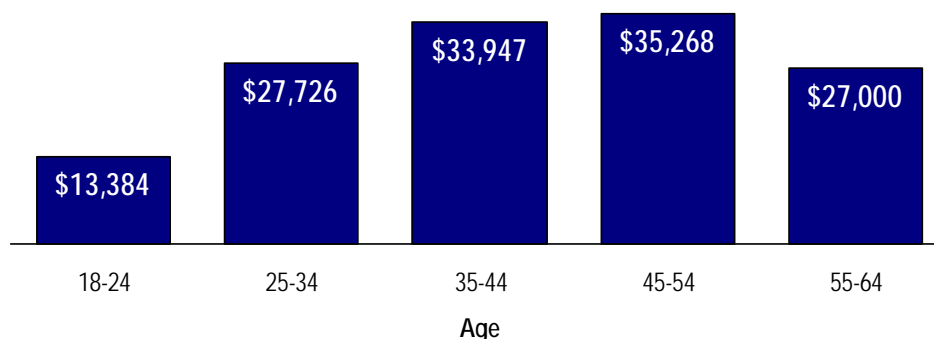


Figure 4—Work Level By Age For Male High School Graduates, 1999

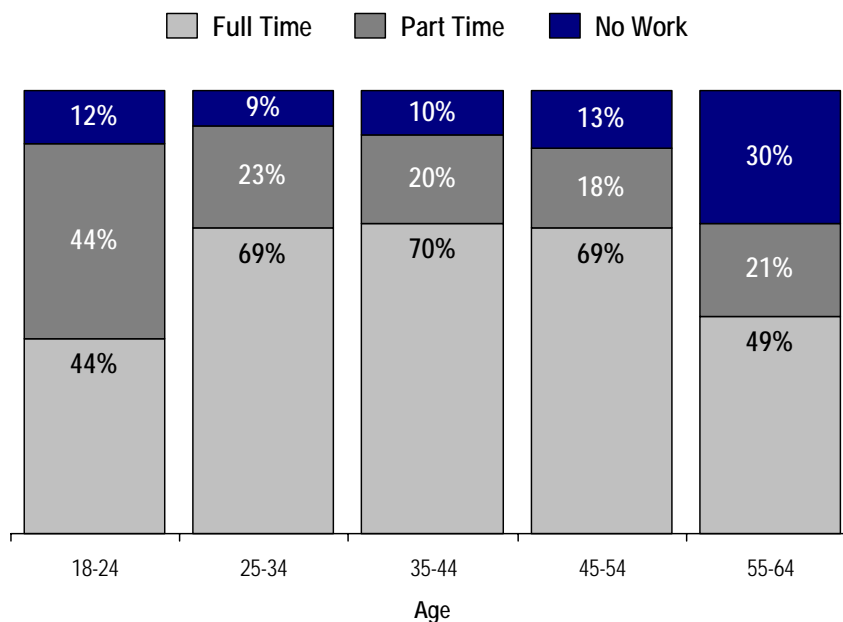


Table 3—Shift in Age Distribution of Male High School Graduates in Washington State

Age	1990	2000	Change 2000-1990
18-24	20%	19%	0%
25-34	32%	24%	-8%
35-44	21%	28%	7%
45-54	16%	17%	1%
55-64	13%	13%	0%

Did High School Graduates Experience Any Increases in Earnings for Full Time Work?

As shown above, changes in age distribution and work level affect overall earnings. Another factor affecting earnings change is whether male high school graduates have the same earnings for the same work level. Looking at full time earnings, male high school graduates experienced a small increase in earnings from 1989 to 1999 across all earnings percentiles examined, but the increase is much smaller than experienced by male full time earners overall (see Table 4).

**Table 4—Full Time Earnings of Male High School Graduates and All Men
Adjusted for Inflation (1999 dollars)**

		1989	1999	Change 1999-1989	% Change (1999/1989-1)
<i>Male High School Graduates</i>					
Mean		\$33,563	\$37,885	\$2,522	7%
Percentile					
	10th	\$14,418	\$15,000	\$582	4%
	25th	\$21,733	\$22,000	\$267	1%
	50th	\$31,960	\$32,400	\$440	1%
	75th	\$43,465	\$45,000	\$1,535	4%
	90th	\$56,249	\$60,000	\$3,751	7%
<i>All Men</i>					
Mean		\$43,225	\$49,929	\$6,704	16%
Percentile					
	10th	\$15,724	\$17,000	\$1,276	8%
	25th	\$25,418	\$26,000	\$582	2%
	50th	\$37,946	\$40,000	\$2,054	5%
	75th	\$51,136	\$57,000	\$5,864	11%
	90th	\$70,311	\$82,000	\$11,689	17%

Conclusion

Over half of the male high school graduate population earned less in 1999 than it did in 1989. The higher wages and/or salaries associated with older workers tempered the negative effects of the reductions in work levels experienced by male high school graduates. Male high school graduates experienced small increases in the earnings for full time workers, but these increases were substantially lower than for men overall.

¹ The PUMS is an individual level data set that contains decennial U.S. Census data collected from the long form of the U.S. Census. Earnings include wage, salary, commission, bonus, and tip income from all jobs before deductions and/or net income from self-employment. Earnings and work related data were collected for the year prior to when the Census was taken. For example, the 1990 PUMS contains answers to questions regarding what the respondent's earnings, hours worked, and weeks worked were for the prior year (1989). Population characteristics, such as age, were collected at the time of the Census. So the 2000 PUMS contains the ages of respondents in 2000.

² The 2000 Census topcoded wage and salary earnings at \$336,000 and self-employment earnings at \$245,000. Total earnings are the sum of these two values. The 1990 Census total earnings adjusted for inflation were topcoded at \$500,320 (\$391,368 unadjusted).

³ Full time work is defined as working 35 or more hours a week, 45 or more weeks a year, and having non-zero earnings. Part time work is defined by non-zero earnings, and working less than 35 hours a week or less than 45 weeks a year. No earnings is simply defined as having zero earnings.